Always Archigram

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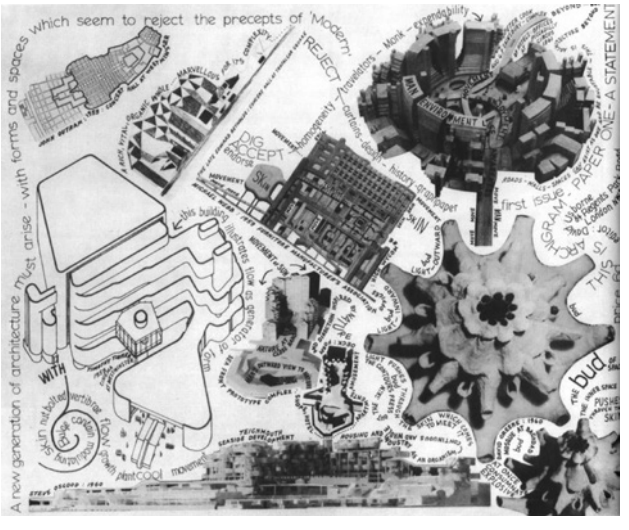


Image 1. *Archigram #1, 1961.*

The title for my talk today is «Always Archigram,» because in it I want to think about the legacies of the Archigram group, the famous British neo-avant-garde of the 1960s. I will suggest that advanced architecture never quite leaves Archigram behind.[1]

In 2003, for instance, the spine of the popular, Barcelona-published *Metapolis Dictionary of Advanced Architecture* announced that

> Advanced architecture is to the information age what modern architecture was to the industrial age. Digital technologies, the knowledge economy, environmental awareness and interest in the individual are giving rise to a new kind of architectural action.[2]

But we can hear the Archigram group's David Greene, in period hipster style, saying much the same of architecture back in 1968:

> In the '20's it was all happening on the assembly line. They all got high on industry, liners and Socialism. That's all dead, the action's moved on into the delicately tuned transistor … and the magic minds of white-shirted identity-carded men with checkout clip-boards plugged into plasticised cybercircuits.[3]

Though welcome, the mood of newness within the seven hundred pages of *The Metapolis Dictionary* conceals the fact that the neo-avant-garde is really a spreading, middle-age figure with a biography reaching back as far as Archigram, and beyond, to the 1950s, to the 1910s and, ultimately, to the 19th century. For the purposes of this talk, the term «neo-avant-garde» refers to those architects since World War II who have combined anti-historicism, radical formal innovation, technological determinism, and the rhetoric of socio-economic change to revive older modernist agendas.

In fairness, the rapid recent evolution of genetic and computation technology so powerfully suggests paradigmatic shifts that we might well be excused today for believing that the conditions of advanced architecture are unprecedented. Really, though, the central interest to architecture of those technologies are their capacity to drive processes of «emergence,» or «becoming,» and this only revives the dreams of early twentieth-century Futurism. The so-called «post-critical» stance of today's neo-avant-garde, meanwhile, serves only to strengthen its connection to the 1950s and 1960s. This is because the neo-avant-garde's founding ruse, fifty years ago, was something similarly post-critical, a scripting of the «yet-to-come» based on the «already-here».[4]

So it is that the neo-avant-garde is somehow *always* Archigram, to a greater or lesser degree. It is always trying to formulate a response to the moments in its modernist lineage that came before it—to Team 10, to Mumford, and to CIAM. Further back again, it is ever trying to reconnect with modernism's most deviant ancestries in Futurism, Expressionism, Surrealism and Art Nouveau. And that is because it is still formulating a response to the explosive modernization of the 19th century. The neo-avant-garde believes civilization will advance by engaging with the «second nature» of information and technology, in much the same way that the Enlightenment wanted to engage with the natural world. This engagement is always staged as a search for mediated intensities in which to dwell within the post-industrial flow of communications and capital.

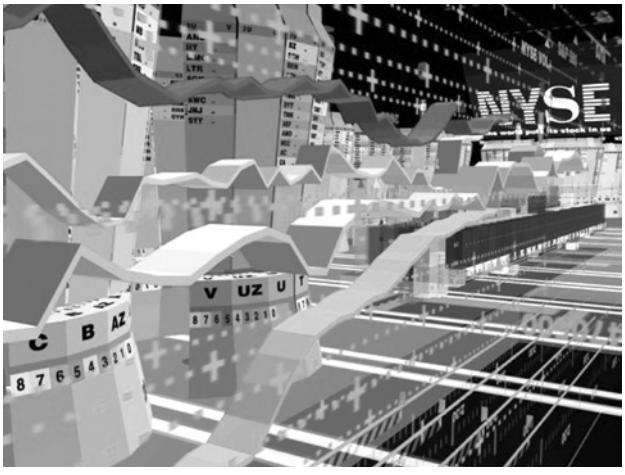


Image 2. *Asymptote, Virtual Trading Floor for the New York Stock Exchange, 1999.*

With some exceptions, the neo-avant-garde after Archigram conducts its business by suppressing history (even its own) and suppressing the tough questions of political economy that make the neo-avant-garde mission so problematical. Archigram lodged within contemporary architecture an idealism about the relationship between architecture and political economy. This idealism is belied by its apparently unflinching recognition of the liquidation of space by late capitalism. It is also belied by the way that the neo-avant-garde works to shore up architecture. The question then becomes whether, and when, this liberal arrangement will be threatened.

2. Always Art: the pleasures of a «postmodern humanism»

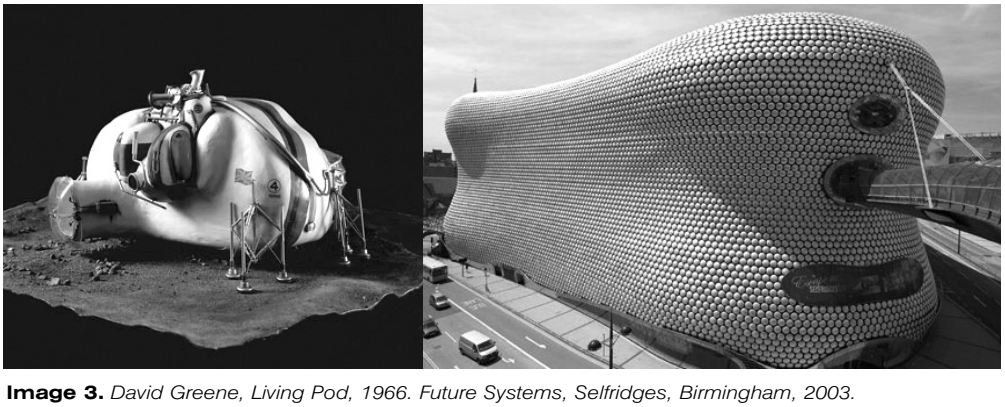


Image 3. *David Greene, Living Pod, 1966. Future Systems, Selfridges, Birmingham, 2003.*

There are several ways to trace paternity between Archigram and today's blobs, warps, non-standard architectures, folds, and networks. One is institutional, through publishing, employment and architectural education. Another is formalist, which bridges, for instance, Archigram's amorphous mounds and inflatables from the 1960s to landscape urbanism and blobitecture today. Why, though, are those forms considered still valuable? And in tracing their lineage, why pause at Archigram rather than straight-line back to Archigram's own sources in Richard Buckminster Fuller, Jean Prouvé, and Frederick Kiesler, and so to their sources in engineering and biology?

One answer is that Archigram broke with the engineer's rationalism of Fuller and Prouvé so as to retain architecture's humanist underpinnings. At the same time, Archigram broke with the surrealist concerns of Kiesler so as to prepare architecture for post-modernity and its «living dream» of goods, services, movement and information. The result is a hybrid that has served the neo-avant-garde well: one might call a «postmodern humanism.» That is a contradiction in terms, of course, but I think it is needed to capture the neo-avant-garde interest in technologies at the service of people, even as that technology skips a little forward of people's control. Archigram's attempt to visualize a postmodern-humanist future also reinvigorated the practice of architecture as an art form.

Image 4. *Robbie the Robot, 1956. Warren Chalk, David Greene, Electronic Tomato, 1969.*

Turning back for a moment to the *Metapolis Dictionary*, we find that the word «humanism» receives no stand-alone entry. It is knocked aside by the Dictionary's post-humanist thrust toward genetics, artificial intelligence and cyborg architecture. Over the last half-century the neo-avant-garde has borne witness to the cyborg integration of artificial and natural systems, from the anthropomorphism of *This Is Tomorrow's* Robbie the Robot in 1956, to the machinic servility of Archigram's 1969 Electronic Tomato. And today it seems that the architect herself or himself is also a sort cyborg, embedded within a network of flexible building production.

Image 5.

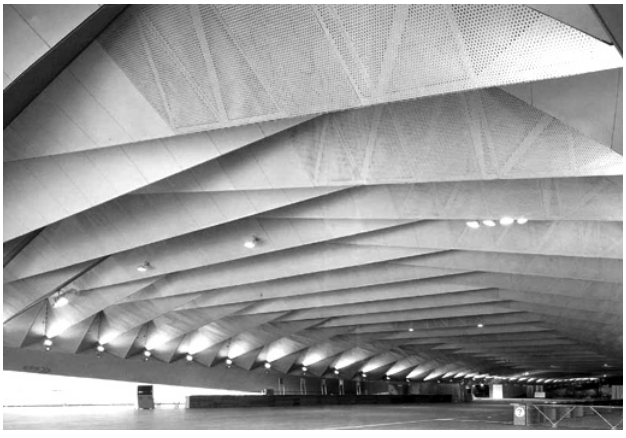


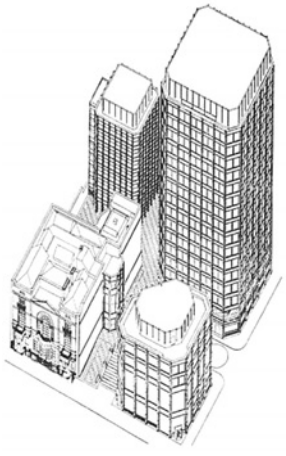
Image 6. *Foreign Office Architects, Yokohama International Port Terminal, 2000-02.*

But the underpinnings of humanist authorship push back. Most obviously, *The Metapolis Dictionary* is part of a recent surge in architectural publishing that stands as a testament to a five-hundred year humanistic legacy. And a close reading reveals the use of the word «humanism» in one of the *Dictionary's* core propositions on Advanced Architecture.v So the neo-avant-garde ever reserves, in the anonymized, cybernetic age it heralds, a continued place for authorship and for art. This allows advanced architecture to ride the vicissitudes of political economy long enough to furnish its age with art, in much the same way that Peter Behrens extrapolated an Egypto-Greek temple from a turbine factory, and in the same way that Archigram drew its automated world-to-come using techniques developed by the Renaissance and the Beaux-Arts.

Image 7. *Warren Chalk, «Ghosts,» Archigram #7, 1966.*

Image 8. *Smithsons, Paolozzi, Henderson, Parallel of Life and Art, ICA, London, 1953.*

To follow the postmodern turn in «postmodern humanism,» meanwhile, we first need to recall that modernist art depicts a world of ideal, transparent, rational and balanced relations, whereas post-modern art depicts the world as pragmatic, indeterminate and mediated. We see this, for example, as the pristine spaces of Mies van der Rohe's 50x50 ft house merge into the floating multimedia world of Warren Chalk's collage «Ghosts» in *Archigram #7*, 1966. Archigram proposed that life is lived not through transparent spatial relationships, but «situationally» inside the «second nature» of a mixed media composition of technology, language, and environment.



Architects' awareness of techno-economic change cannot be credited uniquely to Archigram, of course; such shifts were familiar to other readers of Richard Buckminster Fuller, to readers of Constantin Doxiadis's Ekistics magazine, even to readers of Frank Lloyd Wright and Lewis Mumford. In particular, it was known to the London circles of the Institute of Contemporary Arts in the 1950s—through the conversations of the Independent Group and their shows *Parallel of Life and Art* (1953) and *This Is Tomorrow* (1956). It was apparent as well in the Brutalism of Alison and Peter Smithson, laying the ground for Archigram and subsequent neo-avant-garde thought.

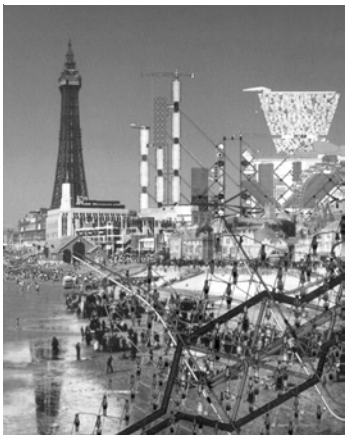


Image 9. *Alison and Peter Smithson, Economist Building, London, 1964.*
Dennis Crompton for Archigram, Plug-in City at Blackpool, 1960s.

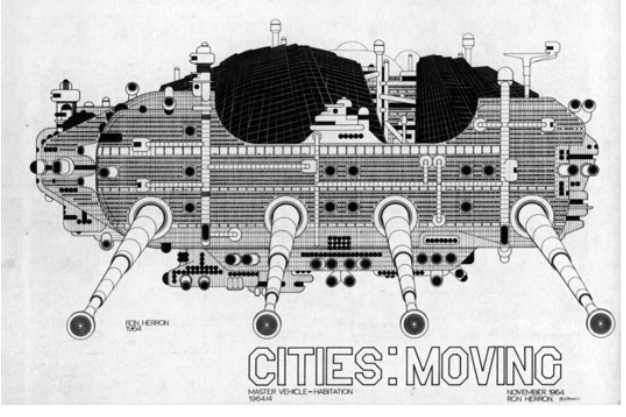


Image 10. *Ron Herron for Archigram, Walking City, 1964.*

But Brutalism retained traces of a monumental classical sensibility, whereas Archigram «took off.» It rushed into the postmodern condition as a way in which architecture's *users* could renegotiate their identities and their relationships to and through the second nature of media, consumption, urbanism, leisure. For each attempt to place people within a determinate environment, postmodern humanism counterattacks with scenographies of an indeterminate modernity no matter how chaotic or extreme. In 1964 for example—the same year that the Smithsons completed their classically-mannered Economist Building—Archigram's Ron Herron drew the lovably monstrous Walking City. Synchronously, this instability finds its increasingly confident and coordinated rejoinder in discourses of the stable, situated or predictable (in the revivals of Heideggerian phenomenology, say, or in Christopher Alexander's identification of pattern languages, or in architectural neo-rationalism, classicism and historicism).

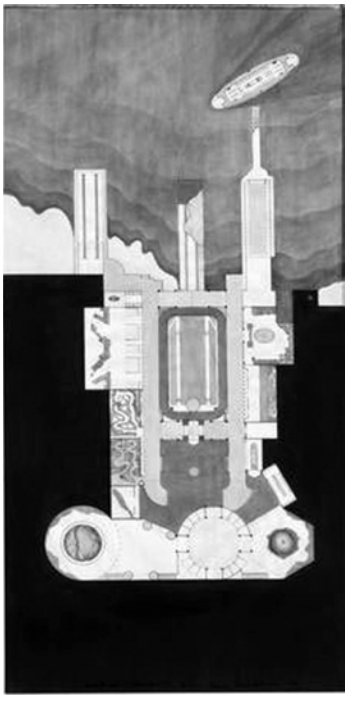


Image 11. *Rem Koolhaas, Coney Island project, 1978.*

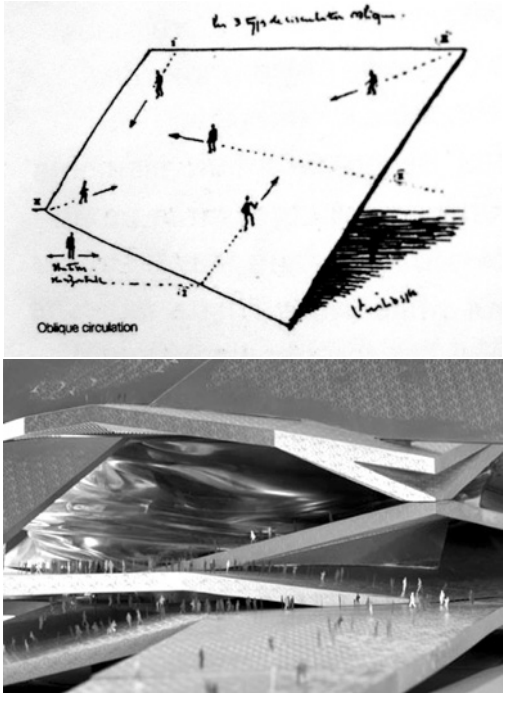


Image 12. *Architecture Principe (Paul Virilio and Claude Parent), 1966.*
Jean Nouvel, Paris Philharmonia project, 2007.

Typical of the postmodern renegotiation of architectural space is the steady stream of big, «funhouse» visions, proceeding from Archigram's initial mid-60s love for the working-class seaside resort of Blackpool, to Rem Koolhaas's embrace of Coney Island (1978), and from Virilio and Parent's oblique architectures of the mid-60s to the recent ramped milieus of UN Studio and Jean Nouvel. The neo-avant-garde pursues the pleasures of spatial, material, cultural and epistemological *instability* as the key experience of the age.

Image 13. *Ron Herron and Peter Cook for Archigram, Instant City Los Angeles, 1969.*

In its miniature worlds of floating images, Archigram predicted that urban, suburban and «natural» landscapes would merge into a supernatural and wired continuum amenable to an increasing socio-economic freedom beyond the ultimate control of architects. It was a vision that should have been dismissed as a dystopian, were it not for the way in which the super-consumers depicted in Archigram's montages reacted to their circumstances much like architects would: artistic form bloomed. In other words, Archigram approached the market as a source of architectural *form*, much as socialism had served as a source of modern form in the 1920s.

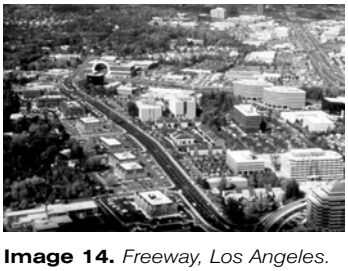
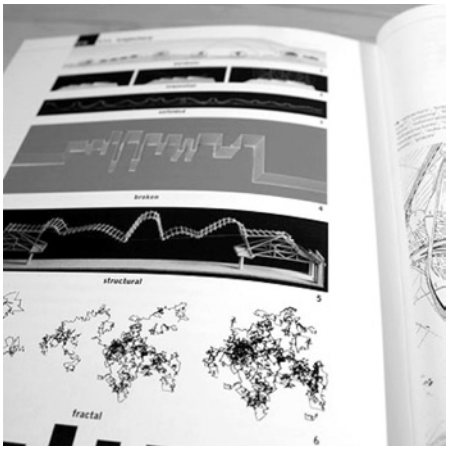


Image 14. *Freeway, Los Angeles.*

The neo-avant-garde insisted, then, on seeing late capitalism for what it might be rather than for what it is. This desire somehow endures decades after Manfredo Tafuri criticized this and all attempts to place superstructure before structure,vi and despite the way in which neoliberalism's «space of flows» (as it was identified by Peter Hall and Manuel Castells) emerged in the late twentieth-century as a space of numbness and *absence* rather than of intensity or form—a space of technoburbs, outsourced production, dislocation, impeded ever-less by regulation, locale, or design.



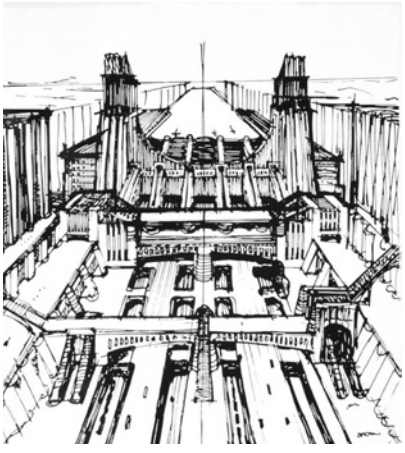


Image 15. *Antonio Sant'Elia, La Città Nuova, 1914. Metapolis Dictionary, 2003*

So, to recognize that an Archigram drawing is as distinctive today as it was in its time, in the 1960s, is to accept that it is *unlike the near future that Archigram correctly predicted*. It is simultaneously as inaccurate as it is accurate; the late-twentieth and early twenty-first centuries realized the infrastructural, economic and political conditions for Archigram's wired and mobile continuum, yet those conditions mostly failed to produce the architecture that Archigram offered as its accompaniment. Likewise, the designs in *The Metapolis Dictionary* are affecting in their *difference* to space at large. Today, as in Archigram's day, and as in the Futurists' day, architecture has a *potential* to shape the currents of technological and economic acceleration, but rarely can. It mostly services those currents.

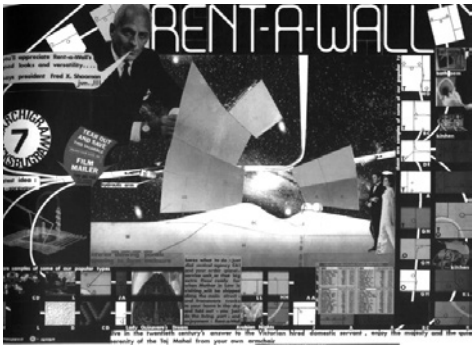


Image 16. *Michael Webb for Archigram, Rent a Wall project, 1966.*

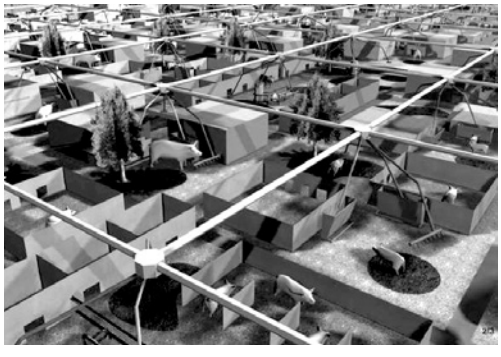


Image 17. *MVRDV, Pig City project, 2001.*

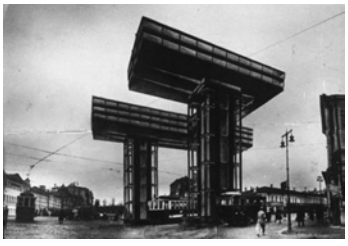


Image 18. *El Lissitzky, Cloud Hangar project, 1924-1925.*

To play any part at all, it is as though the neo-avant-garde learned to keep its core humanism covert, in case it appeared behind the times of an accelerated global market economy. In fact the neo-avant-garde often captures the reproductive grind of late capitalism so cleverly as to constitute an independent conceptual art practice. Archigram's fake multinational architecture, later OMA's trademarking of its own ideas, and then MVRDV's scandalous interventions confirm architecture's supremacy, among all the arts, in investigating the political economy of space without much hope of changing it. So Archigram ultimately anticipates the fate of the neo-avant-garde in a tragic sense, seeking a coincidence between its interests and those of the post-industrial political economy to which it wishes to connect.

Decade upon decade, economics inched further to the right, leaving behind the neoliberal landscape from which the state has not only retreated but left the market as its proxy. Neo-avant-garde architecture was therefore forced to project imaginary reconfigurations of post-industrial society, because of the unlikelihood of the political alliances necessary to execute that reconfiguration outside of the everyday market. This is markedly different from the heyday of modernism in the 1920s when modernist visions, however virtual, were nonetheless harnessed with real political movements, and it is markedly different to the post-War reconstructions of western European and postcolonial states when architecture enjoyed so much political clout that it was virtually a branch of government.

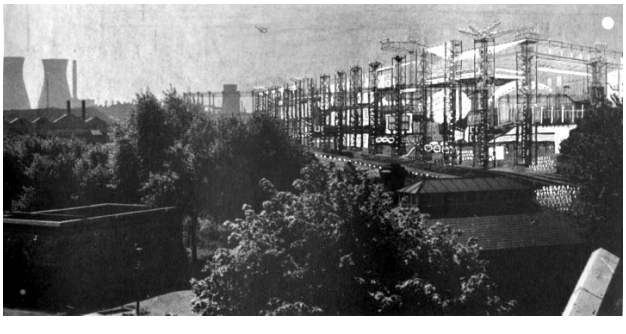


Image 19. *Cedric Price, Fun Palace project, 1959 – 1961.*

That this observation isn't made solely with the help of hindsight is indicated by the way in which the neo-avant-garde has quietly monitored the efforts made by its old ally, the Left, to regroup. Cedric Price, a fellow-traveler of Archigram and the neo-avant-garde's most incisive early thinker about post-industrial transformation, understood, as a member of the British

Labour Party in its socialist phase, the necessity for politics. But cut off from firmer political support, spreading its favors in all directions, the neo-avant-garde instead remained ever marginal. Little surprise perhaps that the neo-avant-garde tended to offer virtual architecture, each time replaying a central humanistic assumption of modernism: that art will cleave open group consciousness to a better world, even if that world has become wholly mediated.

Image 20. *Peter Frankfurt, Greg Lynn, and Alex McDowell, New City Concept, MoMA, 2008.*

Architectural thought therefore remains stalled in the century-old dialectic formed between the teleology of Hegel and Marx on the one hand, and the heurism of Darwin, Freud, Nietzsche and Bergson on the other—that is to say, between the forward movement of history to its end, and the irresolvable swell of a modernity in becoming. Conceptually, then, the neo-avant-garde is rooted in the 19th century. For all its love of robots, biology, computers, and informational flows, it is fundamentally inspired by 19th-century metropolitan culture, from which its dialectic between teleology and heurism originates. And it is at its best when reworking 19th-century urban architectural typologies such as concert halls and transport exchanges.

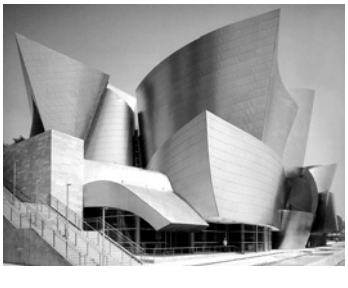


Image 21. *Frank Gehry, Walt Disney Concert Hall, Los Angeles, 1999–2003.*

3. Always Nostalgia: for the 19th-century metropolis

Image 22. *Ron Herron and Peter Cook for Archigram, Instant City, 1969.*

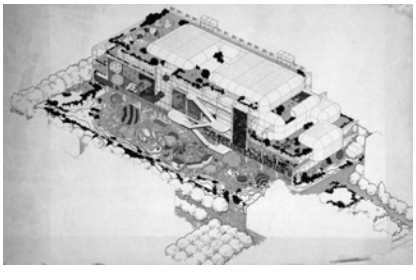


Image 23. *Renzo Piano and Richard Rogers, Pompidou Centre project, 1971.*

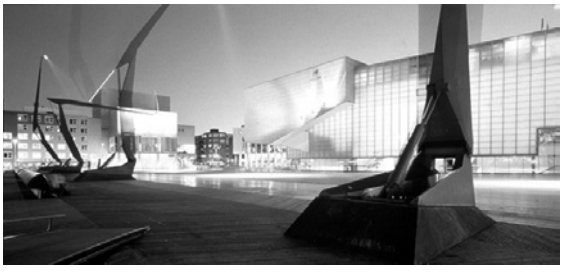


Image 24. *West 8, Schouwburgplein, Rotterdam, 1991.*

In the 19th-century, bourgeois modernization perfected the Deleuzian plateaux, we might say, of parks, lobbies, cafés, galleries, railway stations and other cultural institutions deemed necessary for society to regroup and observe the new world in becoming. It is these same abstracted institutions that underpin neo-avant-garde designs, built and unbuilt. They dam up the «space of flows» into occasional «spaces of place.» In an age of shopping malls—that is, in an age of the impersonal serial reproduction of consumption itself—Archigram was at heart looking back to something more like *piazzas* of excited consumption and civic life. It looked for a *cosmopolitanism*, and we can likewise note the revival of piazza designs ranging from those by Renzo Piano and Richard Rogers for the Pompidou Centre (1971) to West 8's Schouwburgplein in Rotterdam (1991) to Koolhaas's 2002 critique of «Junkspace».[7]

Image 25. *Peter Cook for Archigram, Instant City, 1969.*

In his much-read analyses from the 1980s, Manuel Castells suggested inserting into the space of flows the sort of «space of place» anticipated two decades earlier (though Castells doesn't cite them) by Archigram's Instant City project (1968-70).[8] Castells and Archigram alike tended to imagine such spaces as popular, local and communal databanks, and what we might see in the Instant City project in retrospect is a manifesto for the redistribution of the information economy. Admittedly, Instant City potentially prefigured the neoliberal deterritorialization which Castells warned us about—the «variable geometry,» as he put it, «… that denies the specific productive meaning of any place outside its position in a network whose shape changes relentlessly.»[9] But Instant City made a concerted effort to make visible the signals and codes of the processed world—so visible, indeed, as to become an aesthetic (which presents problems of its own, of course).

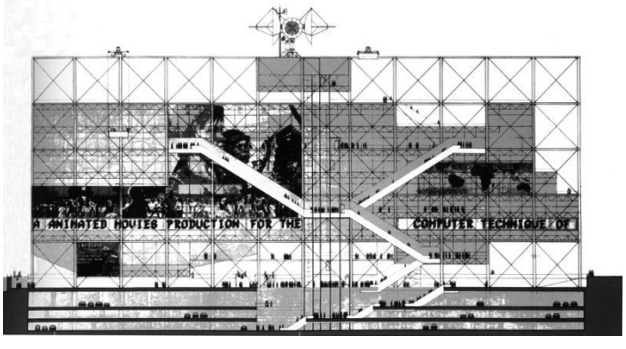


Image 26. *Renzo Piano and Richard Rogers, Pompidou Centre project, 1971.*

Such architectures of information, connecting local community to state and globe, were regarded as legitimate across a range of political positions in the late twentieth-century. This was notably the case in the generally left-leaning French state in the 1970s, where government-sponsored youth clubs[10] and the Centre Pompidou project bore a clear debt to Instant

City and its reworkings of Cedric Price's Fun Palace. It appeared utopian. Yet Castells conceded that «sometimes a utopian vision is needed to shake the institutions from shortsightedness and stasis and to enable people to think the unthinkable, thus enhancing their awareness and their control of the inevitable social transformation.»[11]

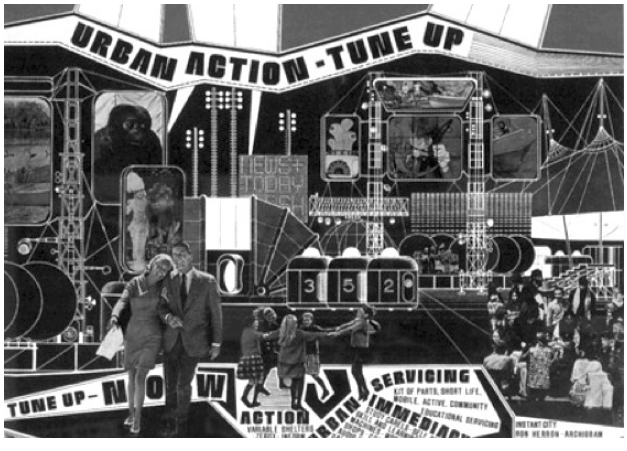


Image 27. *Ron Herron and Peter Cook for Archigram, Instant City, 1969.*

Perhaps this is a mandate we can transfer to the neo-avant-garde generally, as a political test: would a design like Instant City present the future «as a natural phenomenon that cannot be controlled or predicted, only accepted and managed,»[12] or did it offer the user the opportunity to act politically? Like so many neo-avant-garde projects of the last thirty years, Archigram's designs sidestepped politics, providing a vessel without an assigned political content. Indeed Archigram seemed increasingly exhausted by the politico-cultural suspense its designs represented, and became melancholic in its later projects for a one-nation, rustic England.

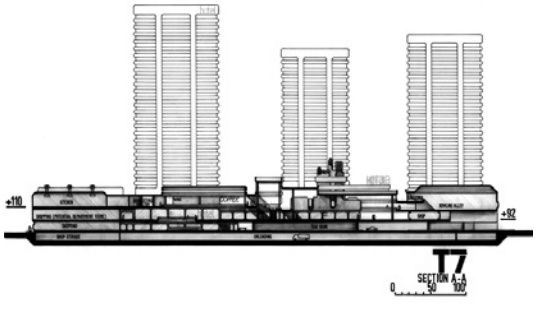


Image 28. *Archigram members for Taylor Woodrow, Euston project, 1962.*

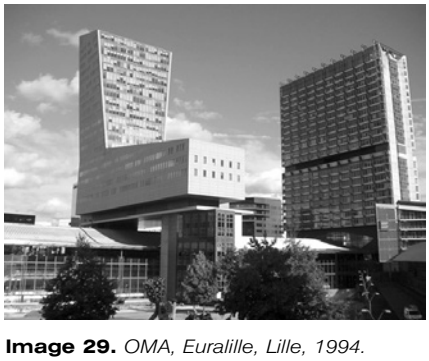


Image 29. *OMA, Euralille, Lille, 1994.*

Image 30. *Foreign Office Architects, Yokohama International Port Terminal, 2000 – 2002*

Image 31. *Claude Monet, Gare Saint Lazare, 1877.*

Perhaps Archigram's hopes for post-industrial architecture were as doomed as Siegried Giedion's visions earlier in the century for industrial architecture, when it was hoped that the highlights of skyscrapers and great spanning bridges and train sheds would provide recompense for factories, substandard housing and pollution. It is this continued gap between socio-economics and virtuality that the neo-avant-garde struggles to fill with new metaphors—the fold, the network, the viral, bigness—for old worries. We might even suggest that the futurism of the neo-avant-garde is at heart nostalgic. Consider for instance the favorite neo-avant-garde typology of transport interchanges—from Archigram's 1962 Euston station project (for Taylor Woodrow), to OMA's Euralille (1994), to FOA's Yokohama Terminal (2002), all epitomizing a civic typology invented in the nineteenth century.

Image 32. *Archigram, Living City installation, ICA, London, 1963.*

The neo-avant-garde came to honor 19th-century metropolitan culture at the moment that that culture lay dying. When Archigram launched the 1963 «Living City» show at the ICA, London's 1960s «modernization» was effecting something of a homogenization of the urban landscape, through large office and retail structures and widened streets—that is, precisely through late capitalism's enlarged spaces of economic flows. And today, neo-avant-garde architecture celebrates the «informational» at the exact time that urban newspapers close, and it commemorates density at the exact moment that some three million acres are being lost to sprawl every year in the US alone.

Image 33. *John Nash, Chester Terrace, London, 1825.*

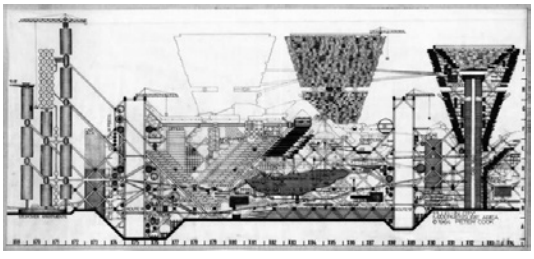


Image 34. *Peter Cook for Archigram, Plug-in City project, 1963-4.*

Archigram's raw material was of fecund material cultures and rich flows of events of the sort formerly manipulated by London's 19th century architects around Picturesque Regency and Gothic megastructures. Peter Cook's 1964 Plug-in City project, for instance, wanted to make urban kinesis and transformation legible again. Plug-in, if we are to look again, contains the majority, if not all, of the tropes of the neo-avant-garde: it is networked, diagrammatic, morphological and folded, shape-shifting, topologically extensive, heaped up. Recent neo-avant-garde icons (if that is the right term for structures which avoid façades) like FOA's Yokohama terminal are revisiting a basic method of the 1950s and 1960s neo-avant-garde: the compositional «formlessness» that can be derived from circulation and site.

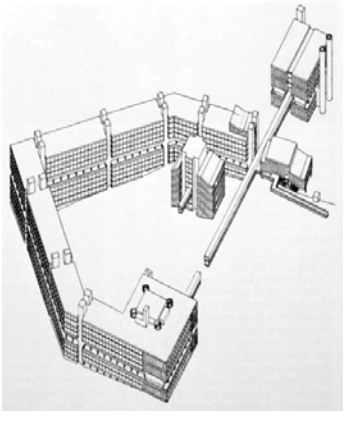


Image 35. *Peter and Alison Smithson, Sheffield University Competition, 1953.*

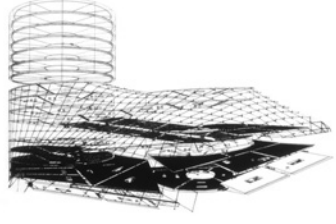


Image 36. *Michael Webb, Sin Center project, 1958.*

Image 37. *London County Council, South Bank arts complex, London, 1960-67.*

This so-called «topology» was handled boldly in the models and graphics of the Smithsons' 1953 Sheffield University competition entry, its walkways tying-together irregularly-massed superblocks; in Constant's infinite New Babylon (1958 forward); and in Michael Webb's Sin Center project. It had even begun to assume built form, for instance at the London County Council's controversial South Bank arts complex (1960-67), whose core design team included Archigram's Warren Chalk, Dennis Crompton and Ron Herron. Despite recent shearings, this remains one of the most extreme built instances of a topological design. Its «all-over» (and «all-under»), near-formless, practically inside-out composition of walkways connecting the nodal points of its site offered Londoners a sort of late-modern stupa.

Image 38.

Image 39.

Image 40.

By rights it should be a neo-avant-garde icon. But it is not, which is revealing about the distance between the virtual and the real—more architects and historians talk about the *drawings* of Archigram than about this early but mostly spurned foray into an actual folded landscape of flows. The South Bank Center perhaps represents the crisis of the emergent neo-avant-garde, trying to find form within the formless, being determinate while embracing the indeterminate. Despite its big push towards the «disappearance of architecture» Archigram had reserved a place for the gloriously retrograde art of monuments. So the neo-avant-garde largely concurs that the practice and production of monumental architecture remains a way of lending weight to a weightless economy.

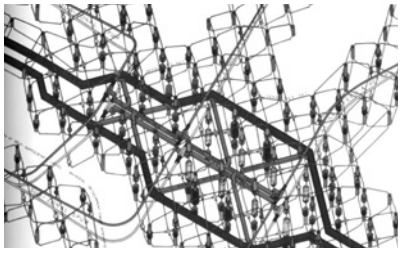


Image 41. *Dennis Crompton for Archigram, Computer City project, 1964.*

Image 42. *Diller Scofidio + Renfro, Blur Building, Lake Neuchatel, Swiss Expo, 2002.*

Image 43. *Michael Webb (Archigram), Suitaloon, 1967.*
Diller Scofidio + Renfro, Braincoats, Blur Building, Swiss Expo, 2002.

In its virtual projections, too, Archigram's work was not compliant, smooth and invisible, but doggedly architectural. This has remained, in essence, the role of computing in neo-avant-garde architecture: postmodern humanism makes modernity visible and strange. Computers are used not as a path *away* from form, but as conduits to more *complex* and congested forms; software and soft materials combine to create not frictionless association but a *frisson* (in this we can compare Michael Webb's 1967 Suitaloon with the Braincoats worn by visitors to Diller & Scofidio's 2002 Blur Building).

Conclusions

Image 44. *UN Studio, Bologna Station project, 2007.*

In a way which became typical of postmodernism, Archigram embraced technology and the market economy as quasi-natural forces. In practice, though, this new «Picturesque»

depended not upon directionless economic and technological development, but on the continuation of something very like traditional architecture. Ironically, Archigram's virtual architecture reserved a role for a dogged architectural profession for which a neoliberal age supposedly had no need. The neo-avant-garde has ever since been dominated by think tanks and cadres with bureaucratic titles and acronyms—OMA, MVRVD, FOA, NL, NOX, UN—that are thin disguises for individual architects of an heroic type traceable to the Renaissance.

Much as it took architecture a long time (most of the 19th century and some of the 20th) to figure out a concerted response to the Industrial and Commerical Revolutions, Archigram's designs have founded evolutionary lines into megastructures, networks, and blobs, as contemporary architecture figures out how to respond to the postindustrial condition. But postmodern humanism is always overwhelmed by the conditions of postmodern political economy: the spaces of flow, the spaces of brute indifference, constantly envelop the spaces of place.

Image 45. *American Recovery and Reinvestment Act website illustrating General Services Administration federal building initiative, June 2009.*

Nor is indifference the only threat. The greater concern to the neo-avant-garde should surely be the long, steady, and sometimes troubling rise in trends favoring the stable, the situated, the predictable and even the absolute. These include discourses on identity and religion; they include the obvious inability of the global village to curtail violence and terror; they include the deeper hues of ecology, or the revived and unapologetic humanism embodied by Barack Obama; and of course they include the widespread skepticism about economic growth. Still, there is reason to think that the neo-avant-garde, once it has moved on from its sixties outlook, will be well placed to register these trends. Alien as they may be, they do indeed all connect globally and economically, and they are all processes which might be modeled and diagramized by neo-avant-gardes hoping to discover a monumental, humanistic architecture appropriate to the age, and the clients willing to pay for it.

Notes

1. I wish to thank Josep Muntañola very much for inviting me to this conference. This talk is based on a chapter I am writing for a forthcoming book from Yale University Press edited by Mark Crinson and Claire

Zimmerman, and on a seminar presented in 2005 for the Landscape and Urbanism series, Princeton University School of Architecture.

2. Manuel Gausa, Vincente Guallart, Willy Müller, Federico Soriano, Fernando Porras, José Morales, *The Metapolis Dictionary of Advanced Architecture: City, Technology and Society in the Information Age* (Barcelona: Actar, 2003).
3. David Greene, «Popular Pak,» distributed with *Archigram* no. 8 in 1968, no page.
4. See «Advanced Architecture,» *The Metapolis Dictionary of Advanced Architecture*, 34-37. Perhaps the most compelling recent account of this stance is to be found in another book published by Actar, Sanford Kwinter's *Far from Equilibrium: essays on technology and design culture* (Barcelona: Actar, 2008).
5. *The Metapolis Dictionary of Advanced Architecture*, 36.
6. See Manfredo Tafuri, *Architecture and Utopia: Design and Capitalist Development* (Cambridge, Mass.: MIT Press, 1979).
7. See Rem Koolhaas, «Junkspace,» *October* 100 (Spring 2002): 175–90.
8. Manuel Castells, *The Informational City* (Oxford: Blackwell, 1989), extracted as «The Reconstruction of Social Meaning in the Space of Flows,» in Richard T. LeGates and Frederic Stout, eds., The City Reader (London and New York: Routledge, 1996): 494.
9. Castells, *The Informational City*, 498.
10. See Tom Avermaete, «A Thousand Clubs or Mile Clubs: Technology and the Rejuvenation of France (1966-1978),» paper at «The 1970s: Designing Futures,» Faculty of Architecture, Building and Planning, University of Melbourne, 2004.
11. Castells, *The Informational City*, 498.
12. Castells, *The Informational City*, 495.